

Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR 1 — CHART INFORMATION

SECTOR 1

NUNAP ISUA (KAP FARVEL) ARCHIPELAGO TO NUNARSSUIT IN DAVIS STRAIT

Plan.—This sector first describes the coast extending NE from Nunap Isua to the limits of the E entrance of Prins Christian Sund. Then, the Prins Christian Sund Passage and the other fjord-like passages in the Nunap Isua Archipelago are described. These are followed by a description of the coast extending NW from Nunap Isua to Kap Desolation.

General Remarks

1.1 The coastal regions of this vast territory consist of an almost continuous ice-free belt, varying in width from 1 to more than 100 miles. Between Nunap Isua and latitude 73°N, the average width of this ice-free belt is 50 miles. The coast described in this sector, encompassing about 190 miles, consists of a narrow strip of ice-free land at the back of which rises the inland ice; it is mountainous and divided up by fjords, sounds, and connecting channels much more than the other portions of W Greenland.

The approaches to this part of the coast are, in general, deep and clear; although, a comparatively shallow continental shelf extends 12 to 33 miles offshore. In some places, narrow but navigable inner routes lead between the off-lying islands and the mainland. However, most of the inshore approaches are obstructed or narrowed by the innumerable rocky islets. The S part of the W coast of Greenland forms the E shore of Davis Strait and its S approach. This may be considered to include all of the coastline situated between Nunap Isua and Disko Island, a distance of more than 600 miles.

Julianehaab and Narssarsuaq are the principal ports situated along this part of the coast.

Winds—Weather.—It is difficult to describe the surface wind field within the Baffin Bay/Davis Strait region because the wind characteristics at most of the coastal stations are largely determined by local influences which are not amenable to regional generalization. There is also a frequent cyclonic activity which produces highly variable surface winds. Therefore, a pronounced prevailing direction is not demonstrated. It has been shown that at several stations the frequency data indicates that, during the course of a year, the winds tend to blow as much from one direction as another. In winter, the surface winds along the coastal sections are directed from the interior towards the coast. The speed of flow depends mainly upon the steepness of the slopes, the narrowness of the fjords, and the pressure gradient along the coast. These winds are strongest and of longest duration when the temperature contrast between the coast and the interior is greatest. Wind speeds under this system have indicated gusts up to 75 knots.

Local topography plays a key role in determining wind speed and direction. At many coastal points the winds are so local in character that they bear little resemblance to the general pressure pattern. Sheltering bluffs and the trends of the fjords largely determine the local wind direction and speed at these stations.

Precipitation along the S part of Greenland and over the Baffin Bay/Davis Strait region reaches about 100 inches annually. In contrast, the N part has only about 4 inches. Snow is the most common form of precipitation and is observed over the Davis Strait area almost all year round, except during July and August.

Fog, precipitation, and the blowing of snow are the principal obstructions to visibility. Fog frequencies are highest during the summer coincident with the navigational season. The belt of most frequent fog formation lies along the coastal sections and extends 20 to 30 miles seaward. This indicates that fog is not as frequent over the open waters of the Baffin Bay/Davis Strait area. During the summer, visibility of less than 2 miles is common for 30 to 40 percent of the time along the coastal sections of W Greenland, from Upernavik to Godthab. Fog in this area is common for 10 to 16 days per month.

Tides—Currents.—The West Greenland Current flows N along the SW coast of Greenland. Between the latitudes of 62°N and 63°N, a branch of this current flows W and then S along the W side of the strait. The diminished main current continues N round the head of Baffin bay. It then curves W and S and is enhanced by water emerging from Nares Strait, Jones Sound, and Lancaster Sound. This combined flow sets SE and then S off the E coast of Baffin Island and is known as the Canadian Current.

In the S, the West Greenland Current sets at a considerable rate, especially near the coast. During September, coastal runoffs and tributary discharges result in average current rates of 3 knots close inshore and 1.5 knots a few miles offshore. During June, the corresponding rates are 1 knot and 0.75 knot respectively.

The Canadian Current generally runs at a rate of 0.5 to 1 knot.

Along the S and W coasts of Greenland, the tides are semidiurnal or mixed. At some places considerable diurnal inequality occurs between successive H and LW. Mean tide ranges vary from 1 to 3m at different locations. The tide progression is clockwise along the Greenland coast. However, a solid cover of ice may alter the tides to an extent where the times may be retarded and the ranges decreased.

Caution.—Local magnetic anomalies have been observed off the W coast of Greenland and in the N part of Baffin Bay.

Mirages and other visual distortions have been observed in these regions. Halo phenomena and auroral displays of brilliance are somewhat common in these Arctic waters.

For the safety of vessels navigating in Greenland waters and to assist in the coordination of SAR operations, two ship reporting systems have been established. The system "Greenpos" is for vessels on passage to and from Greenland waters. The system "Kystkontrol" is for vessels on coastal passage in Greenland waters; it is instituted N of latitude 57°N and within 250 miles of the coast.

Further details are given in Pub. 180, *Sailing Directions* (Planning Guide) for the Arctic Ocean.

Nunap Isua (Kap Farvel) Archipelago to Prins Christian Sund

1.2 Nunap Isua (Kap Farvel) (59°47'N., 43°55'W.), 670m high, is the S-most point of Itilleq (Eggers Island). It is fringed by numerous round-topped islets and rocks which extend up to 0.75 miles offshore. In addition, small islands and dangerous rocks lie up to 4 miles offshore in the vicinity of this point. When passing Nunap Isua at a considerable distance, it is difficult to identify any salient points in the area. However, within 10 miles of the point vessels can easily make out the characteristic mountains on Eggers Island. It is reported that Nunap Isua appears as a small cliff-top.

Caution.—Nunap Isua is notorious for foul weather and heavy seas. During gales, vessels approaching from the E are advised to keep well clear of the point and make a landfall farther up the coast.

Nunap Isua Archipelago.—Situated at the S extremity of Greenland. It consists of several large islands which are mountainous and separated from the mainland and each other by fjord-like passages.

Itilleq (Eggers Island) (59°51'N., 44°02'W.) rises to an elevation of 944m in its N part. It is higher in its SW part. The N shore of the island is low and is in sharp contrast to the S shore which is bare and rocky. Two inlets indent the S shore and are separated by a mountainous headland which terminates in Nunap Isua.

Avatdlerssuaq (59°49'N., 43°35'W.) lies off the E end of Itilleq and rises to an elevation of 491m. A group of five islets, known as Saningassoq, lies close N of this island and off the SE entrance to **Ikeq Channel** (59°55'N., 43°50'W.) This channel leads to that part of Prins Christian Sund Passage where it forms Ilua Channel.

When approaching Ikeq Channel, vessels should bear E and N of the islands mentioned, much of these waters have not been adequately surveyed. Underwater hazards are reported to lie S of a small island which is located 2.75 miles E of the N end of Saningassoq. Vessels should navigate E and N of this unnamed island and through the center of the channel. They should make for a position situated opposite Quernertup Kangia and between the islands of Quernertoq and Sangmissoq. From this position, vessels should favor the N side of the channel and stay a little closer to Sangmissoq than to Itilleq.

1.3 Christian IV Island, lying on the S side of Prins Christian Sund, is the largest island in the Nunap Isua Archipelago. Glaciers are situated in the S and W parts of this deeply indented island. The S part of Christian IV Island is almost severed by two narrow inlets; Manak, extending W, and Tangnera, extending E.

Sangmissoq, located on the S entrance point of Tangnera, is the nearest settlement to Nunap Isua.

Kasit (Qernertoq) (59°58'N., 43°26'W.), an island rising to an elevation of 1,124m, lies with its S extremity (Pamiagdluk Kujatdleq) situated 2 miles E of Serratit.

Qernertup Kangia, a channel, is entered between Kap Serratit and Pamiagdluk Kujatdleq, and leads N for 8.5 miles to the entrance of Manak. It separates Kasit from the E side of the S portion of Christian IV Island. Two islets lie in the S part of

the channel and several small islets and rocks are reported to lie in the N part.

Ikerasakasik, a narrow channel, leads N into Kipisako and separates Walkendorffs Oer from Kasit.

Kap Hoppe (59°56'N., 43°15'W.), 574m high, is the SE extremity of Walkendorffs Oer, the SE of the larger islands which form the archipelago. A submerged rock, visible at LW, lies 2 miles SW of the SW end of Walkendorffs Oer.

Kipingajak marks the SE extremity of the Akajaruanek Promontory. Several islands and islets lie in the SE entrance to Kipisako in the vicinity of Kipingajak.

Kipingajaq and Sangmerqat are two groups of islands, islets, and rocks which lie off the E side of the Akajaruanek Promontory and extend about 1.75 miles E.

Anchorage.—Anchorage is available in a depth of 28m, soft bottom, in Qasigissa Nua, a small bight located on the S side of the W extremity of Christians IV Island. This anchorage affords shelter from all winds; however. Foul ground fringes the W entrance point of the bight.

Anchorage is also available in a small indentation on the E side of Akajaruanek Promontory, abreast the Qipingajaq Islands.

1.4 Prins Christian Sund (60°04'N., 43°02'W.).—When approaching this channel from the E, the land situated N of the entrance is easily identified by a large, sloping white expanse (glacier). In addition, high jagged mountains stand on the land situated S of the entrance.

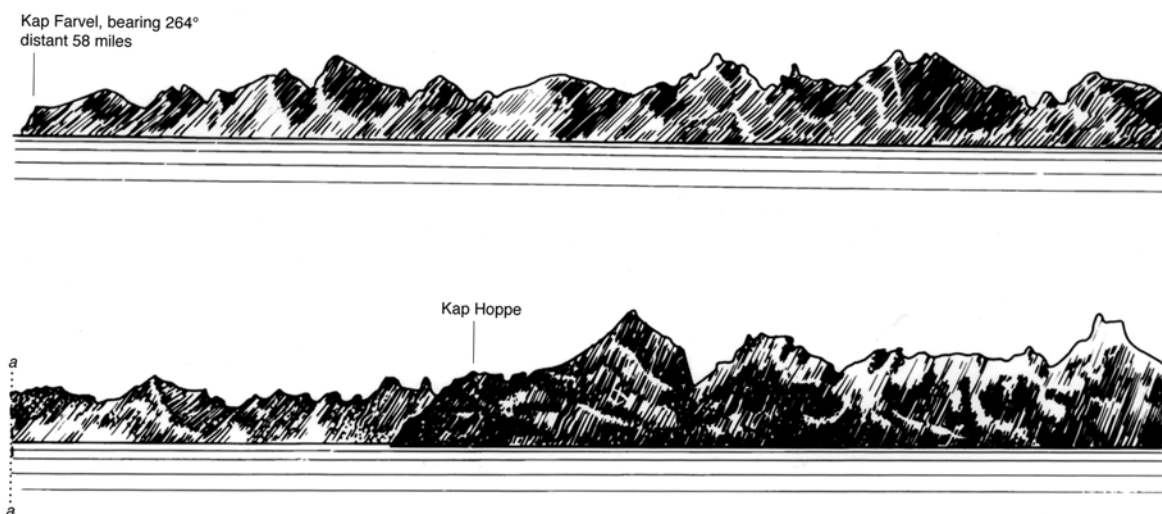
Aluk Avatdleq, located 6 miles N of the sound, is dark brown. The islands lying S of Aluk Avatdleq are reddish brown and heavily scarred by ice action. These islands are easily recognized and form good marks.

Natsek Cove, an indentation, is located 1.5 miles within the entrance of the sound. This is the site of the Prins Christian Sund coast radio and weather station. Prominent radio masts stand at the highest point of the terrain and a light is shown from a tower, 4m in height, standing near the weather station. In addition to these landmarks, a conspicuous tank stands on a small peninsula located in the SE corner of the cove. Vessels should approach the station by heading for the radio masts on a course of 260°. At night, vessels should steer in the white sector of the light, bearing between 263° and 288°. It is reported (1993) that a racon is situated at the light structure.

There are no pilots, but persons with local knowledge, are available. There is a quay, 10m long with a depth of 4m alongside, located at the station. Small vessels up to 31m in length and 3.1m draft have been handled alongside. The radio station can be contacted by VHF. Tides rise about 3m at springs and 1.5m at neaps. During the flood, the stream off the weather station sets SW at 2 to 4 knots. During the ebb, it sets E and SE at 1 to 4 knots and may form eddies.

Prins Christian Sund Passage.—The passage formed by the E part of Prins Christian Sund, the connecting channel Ilua, and Torssukatak, has a total length of 56 miles. During bad weather or unfavorable ice conditions which make it difficult to pass S of Nunap Isua, this passage, when not blocked by ice, provides a safe and easy inner route. The greatest width of the passage is 2 miles, and it narrows to a width of only 0.25 mile, 13 miles within the E entrance. The shore on either side of the passage is bold and precipitous. A small projection, forming a

Sector 1. Kap Farvel Archipelago to Nunarssuit in Davis Strait



VIEW (IN TWO PARTS) OF COAST FROM LAT. 59° 53'N, LONG. 42°00'W

harbor for small craft, is located at **Aappilattoq** (Augpilagtoq) (60°08'N., 44°18'W.) on the NW side of the entrance to Ilua. A beacon stands on this projection. A light is shown from close W of the beacon.

The depths throughout the passage are generally great. A least fairway depth of 14.6m has been reported to lie in Ilua, 0.4 mile SSE of the small projection at Aappilattoq.

Caution.—A strong S-going set may be experienced in the approach to Prins Christian Sund.

The frequent passage of low pressure in the Nunap Isua area often causes very strong winds to blow through Prins Christian Sund.

Submarine cables extend from Frederiksdal (60°00'N., 44°39'W.) to the E end of Prins Christian Sund and S from the E side of Nunarssuaq. Vessels are prohibited from anchoring in the sound except in the designated berths.

During the winter months, Natsek Cove has been found to be choked with bergs and growlers; therefore, vessels should not enter at this season.

Anchorage.—Vessels can anchor off the weather station at Natsek Cove. The berth is indicated by the intersection of the alignments of two pairs of anchorage beacons; the E pair in line bear 130° and the W pair in line bear 220°. Vessels up to 80m in length and 6m draft have used this anchorage.

Kangerdluk Fjord (60°10'N., 43°38'W.), entered 4 miles NNE of Aappilattoq, extends 4 miles NW. It affords anchorage in a depth of 55m, good holding ground, 1.25 miles within the entrance. An isolated shoal depth of 4.5m is reported to lie in the middle of the entrance to this fjord.

Svaerdfiskens Havn, 3.5 miles WNW of the entrance to Kangerdluk, affords good anchorage in a depth of 59m, mud and clay. The berth is indicated by two pairs of range beacons. The indentation can be recognized by two small glaciers which do not reach down to the water.

Igdorssuit Havn, located 10 miles WNW of Svaerdfiskens Havn, affords anchorage on a terminal moraine that slopes gradually into the sound from the foot of a wide glacier.

1.5 Niaqornaq is the NW extremity of Christian IV Island. A small islet, marked by a beacon, is located close NW of this point. A narrow channel, lying between the islet and the point, has a least depth of 12.8m and is navigable. The main and wider channel, which is the recommended one, leads NW and W of the islet and has a least depth of 99m. From Niaqornaq, the sound trends SSW for 2 miles, then NW for 2 miles, and enters the SE side of Ilua.

Ilua Channel, the outer part of which forms the connecting link between Prins Christian Sund and Torssukatak, leads N to Kangerdluk Fjord, Kangikitsok, and Nup Kangerdlua, its three branches. Steep mountains with jagged peaks rise to elevations of between 1,060m and 2,130m around the shores of the channel.

Nuk (60°15'N., 44°10'W.), a small Eskimo settlement, stands on the narrow common entrance point of Kangikitsok and Nup Kangerdlua, situated 7 miles NNE of the S entrance. Kangerdluk Fjord, the S branch of Ilua Channel, should not be confused with the bay of the same name that lies on the N side of Prins Christian Sund.

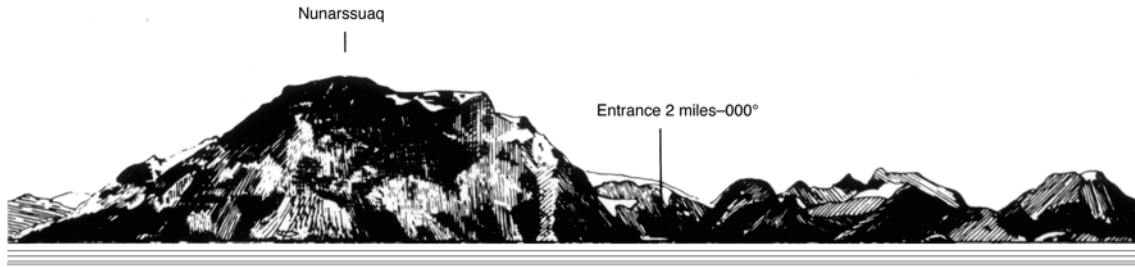
Kangikitsok, the main branch of Ilua, is entered N of Kangerdluk. Two or three small glaciers descend to the sea between the mountains at the head of the fjord. Vessels can anchor at the head of the fjord in depths of 56 to 66m.

1.6 Torssukatak, which forms the SW end of Prins Christian Sund Passage, leads between the mainland and Pamiagdruk to the E side of the Davis Strait; a distance of 18 miles. Two small islets lie close off the S shore of the entrance to the channel; a beacon stands on the W islet. Pamiagdruk, a large island located on the E side of the channel, rises to an elevation of 1,371m. A beacon is reported to stand on its W extremity.

The depths in the channel are generally great with a least fairway depth of 56m.

From its NE entrance, situated close SW of Aappilattoq, Torssukatak extends N for 5 miles and then forms two branches. Stordalens Havn, the smaller branch, extends NW

Sector 1. Kap Farvel Archipelago to Nunarssuit in Davis Strait



SOUTHERN ENTRANCE OF TORSSUKATAK FROM S

for 1.5 miles to a glacier at its head. The other branch leads E along the N side of Pamiagdhluk into Ilua.

Vessels can anchor in a depth of 64m in the outer part of Stordalens Havn, but the inner part shoals rapidly.

1.7 Nunarssuaq, rising to an elevation of 939m, lies off the S entrance to Torssukatak and is the W island in the Nunap Isua Archipelago. A group of bare, precipitous islets and rocks, forming the E side of the E approach to the channel, lie 1 mile E of Nunarssuaq. Depths in the approach to the channel are irregular, but the least reported depth in the fairway is 137m.

Qornoq, the channel separating Nunarssuaq from the mainland, forms the W approach to the S end of Torssukatak. The least depth, in mid-channel, is reported to be over 90m.

An isolated rock (position doubtful) lies about 1.5 miles SSE of the S extremity of Nunarssuaq; above-water and below-water rocks are reported to lie about midway between.

Anchorage is reported to be available on the W side of Torssukatak in an indentation situated close N of the NE entrance to Qornoq. This anchorage affords good shelter from winds and protection from drift ice floating in the sound.

1.8 The Coast.—Kangersuak Kujallek (Kap Christian) (59°47'N., 44°05'W.) the SW extremity of Itilleq, lies 5.25 miles WNW of Nunap Isua and rises to an elevation of 486m. Nunat, an islet 25m high, lies 4 miles SW of the cape. A smaller islet, on which the sea breaks during bad weather, lies 1.25 miles N of Nunat.

Qornoq, the channel separating Itilleq from the islands lying to the W, is entered between Kangersuak Kujallek and Tornarssuk. The entrance is encumbered with numerous islets and rocks. Qeqertat, a group of islets, lies from 1 to 2.5 miles S of Tornarssuk.

Pamiagdhluk Kujatingua Sound separates Tornarssuk, 1,402m high, from Pamiagdhluk Island. There are numerous islets and rocks lying on either side of the S entrance to this sound.

Quvnerit, a wedge-shaped island, lies between Tornarssuk and Itilleq and rises to an elevation of 1,250m at its N end.

Angnikitsoq lies E of Pamiagdhluk and is separated from the N shore of Quvnerit by Sivinganerup Ima. Prominent peaks stand near the N and S ends of this island.

Narsaq Kujallek (Frederiksdal) (60°00'N., 44°40'W.) (World Port Index No. 00550) is a small fishing port situated within the E entrance point of Narssap Sarqa, a short fjord. It stands at the head of a bay, open to the S, which forms a small harbor.

Medium-sized vessels can anchor in depths of 18 to 20m, clay and sand, good holding ground, at the intersection of two pairs of range beacons. Small vessels can anchor 0.3 mile SSE of the church in a depth of 11m, good holding ground.

When the main anchorage berths cannot be used because of ice or swell, vessels may anchor within the small bays located 0.75 mile and 1.5 miles NNW of the church. There are no pilots, but persons with local knowledge are available. The harbor can be contacted by VHF on channel 12 and 16 during the day.

Narssap Sarqa (Amitsuarssuk) is entered between Nugssuaq, the SE extremity of the Frederiksdal Promontory, and the SW extremity of the Ostproven Promontory, 2 miles W. Tikaquta Mountain, rising to an elevation of 1,405m, stands at the head of this fjord.

Range lights are established on Nugssuaq and, in line bearing 063°, lead from SW into the entrance of the fjord. A radio mast stands close ENE of the rear light.

Range lights are established on an islet lying off the Ostproven Promontory. They lead, in line bearing 285°, from E into the entrance of the fjord.

Foul ground extends 0.75 mile N of Nugssuaq.

1.9 Klapmydsoerne is a chain of islands, islets, and rocks, separated from the mainland by KitsiSsut Tunua. The chain consists of two main groups, Nordlige Kitsissut and Sydlige Kitsissut, and extends in a general NW direction for 19 miles from **Naajat** (Naujat) (59°52'N., 44°57'W.), the SE-most island.

Angissoq (59°57'N., 45°07'W.), the largest and highest island of the chain, lies 14.5 miles NW of Naujat. A peak, 101m in elevation, stands near the center of the island. Several coves and a bay indent the E side of this island. A beacon stands on this projection; a light is shown from close W of the beacon.

Angissoq Havn is formed by the bay at the E side of the island. There is a boat harbor and a quay, 10m long, with a depth of 3m alongside.

Anchorage can be obtained off the harbor, in a depth of 20m, good holding ground, at the intersection of the alignments of two pairs of beacons. Vessels of up to 80m in length and 6m draft have been handled at this anchorage. Vessels discharging bulk oil products anchor and secure their sterns to a point close S of the quay. There is no pilot, but persons with local knowledge are available.

Sector 1. Kap Farvel Archipelago to Nunarssuit in Davis Strait

Nunarssuaq (60°01'N., 45°12'W.) is the NW-most island of the chain. A trading station is established on this island during the fishing season in the Klapmydsoerne.

1.10 Igdlukasik (60°02'N., 44°51'W.), an island lying W of the Ostproven Promontory, is separated from the mainland by a narrow channel, Igdlukasip Tunua. The seaward side of this island is fronted by several small, low islands and rocks which are, for the most part, covered with sharp gravel.

Anchorage can be obtained in Igdlukasik Havn, a small bay at the SE end of the island, in depths of 12 to 16m, good holding ground. A steep-to islet lies 0.3 mile SW of the entrance to the bay which is narrow but deep in mid-channel. The tidal stream can run strongly between this islet and the entrance. Strong winds from SE and N are experienced in the anchorage.

The general route for vessels navigating between Frederiksdal and Nanortalik is through Kitsigsut Tunua. However, there is an alternate inner route, for part of the passage, which is suitable for small coastal craft. This inner route, which has a least depth of 5m in the fairway, runs through the channel situated between Igdlukasik and the islands and islets lying close SW. The E entrance of the channel lies 1.25 miles S of the SE extremity of Igdlukasik and is marked by a beacon. Local knowledge is required.

Tasermiut Fjord is entered between the S end of a peninsula, on which is situated the settlement of **Tuapait** (60°07'N., 45°11'W.), and an unnamed point, 2 miles S. There is high land on both sides of the entrance terminating on the E side in Jakobinerbuen, a 634m high mountain. On the W side, Tusarduarnaq, a 730m high mountain, stands 1.75 miles NNE of Tuapait. There is much higher land, up to 2,100m in elevation, standing on both sides of the upper reaches of the fjord. Within the fjord, the first 12 miles afford depths of more than 180m. The depths then decrease to 55m up to a position about 0.5 mile from the head.

Close E of the middle part of the fjord, up the rapids of a rivulet, there is a natural amphitheater, sheltered by high mountains, which is called the "Greenland Eden" because of the amount of vegetation, unusual for Greenland, which flourishes there.

Inigsugtalik, an island with a beacon standing on its E side, lies 2.5 miles S of Tuapait. Numerous small islands, islets, and rocks extend N and NW from Inigsugtalik across the SW approach to the fjord.

Range lights are established at Taterakasik, on the S side of the SE entrance point. In line, they lead S of Inigsugtalik and toward the entrance of the fjord.

A light is shown from a structure, 7m high, standing close E of the settlement at Tuapait on the NW side of the entrance.

1.11 Nanortalik Island lies with its S extremity located 3 miles NW of Inigsugtalik. A headland, on the SW side of the island, rises steeply from the sea and close N of it stands Qaqarssuasik, a 559m high mountain, which is easy to identify from seaward. The W side of Nanortalik Island is fronted by islets and rocks. A below-water rock lies about 2 miles W of the S extremity of the islet.

A radiobeacon is located at the head of a bay at the SE end of the island. It is reported that a small quay, with a depth of 7.3m alongside, has been constructed here.

Nanortalik Havn (60°07'N., 45°12'W.) (World Port Index No. 00560) lies on the E side of the island within Kirkegaardsbugt, a small bay open SE, which forms a harbor having general depths of 10 to 30m.

There are two quays, 10 and 20m long, with depths of 1.4 to 2m alongside. They are used by small vessels with drafts up to 3.6m. A third quay, 30m long, has 7.3m alongside. Vessels up to 4,000 dwt, with a maximum length of 90m and a maximum draft of 6.5m, can be accommodated, although under extreme wind conditions, the maximum draft is limited to 5.7m. There are also several buoys for stern mooring.

The main approaches to the harbor are indicated by range beacons and lighted ranges. The harbor can also be approached from S by a deep channel, marked by beacons, which leads W of Inigsugtalik and is part of the inner route. See paragraph 1.10.

Pilotage.—Port and Pilot can be contacted by VHF on channel 16, 9 and 13. Vessels should request for pilot (persons with local knowledge are available) through Qaqortoq (OXF).

Winds—Weather.—Very strong fjord winds can occur with the passage of a low pressure system. Also, during the autumn and winter periods, strong local mountain squalls can occur.

Ice.—The harbor can usually be navigated from the middle of June until the middle of January. Pack ice can hinder navigation from January to June.

Tides—Currents.—Tides rise about 3m at springs and 1.5m at neaps. During mountain squalls and the passage of a low pressuresystem, the water level in the harbor can be lower than predicted.

Anchorage.—There is a designated anchorage berth, in depths of 26 to 30m, marked by the intersection of the alignments of two pairs of lighted range beacons.

1.12 Sermersoq, lying N of Nanortalik Island, is the largest island in Julianehaab Bugt and forms the W side of Sermersup Sarqa. The mountains, particularly on the E side, are perpetually covered with ice and appear as towers and spires of some old castle. Kitdlavat, the highest peak, rises to an elevation of 1,279m, and in good visibility can be seen from a considerable distance.

Kangeq (Kap Egede) (60°11'N., 45°25'W.), the S extremity of Sermersoq, is a steep headland fronted by islets and below-water rocks which extend up to 1.5 miles seaward.

Niaqornaq, a small peninsula, projects from the W side of Sermersoq, 7.5 miles N of Kangeq. Its seaward end is marked by a beacon. Vessels can anchor on either side of the peninsula, sheltered according to the direction of the wind.

Qornoq is a navigable channel leading between the SE side of Sermersoq and Nanortalik. Sermersup Sarqa, its continuation between the middle part of Sermersoq and the mainland E, is navigable. Thomsens O, located 1.75 miles NE of the N end of Nanortalik Island, is a small island marked by a beacon on its NE side.

Amitsoq, rising to a height of 975m, is a long and narrow island which lies between the NE part of Sermersoq and the mainland to the E.

Sector 1. Kap Farvel Archipelago to Nunarssuit in Davis Strait

Angmalortoq, an island rising to a height of 1,253m, lies W of Amitsoq and NE of the N end of Sermersoq in the entrance to Sondre Sermilik Fjord.

Kanajormiut (60°24'N., 45°13'W.), an elongated island, lies 1.5 miles N of Sermersoq and close off the S end of a high peninsula of the mainland which forms the W side of Sondre Sermilik Fjord. Below-water rocks and islets lie in the deep channel situated between this island and Sermersoq. A beacon stands on the E-most islet. Anchorage is afforded off the E side of Kanajormiut and in Niaqornarssuaqon, a small bay on the S side of the mainland peninsula. These anchorages should be approached from E as the W end of the narrow channel between Kanajormiut and the peninsula is foul.

Kangerdluak is a small bay which indents the N side of Sermersoq Island. Qegertasugssuk, an islet 60m high with a rock close NW, lies on the W side of the entrance to this bay. A beacon stands on the islet.

1.13 Aputajuitsok, the highest mountain within this stretch of coast, rises to an elevation of 2,103m about 75 miles N of Kangeq.

Sagdleq, a chain of islets and rocks, lies close W of Sermersoq. Angissoq, the S islet of the chain, lies 4.75 miles NNW of Kangeq and is marked by a beacon. A radiobeacon is reported to be located on this islet. Vessels with local knowledge can find sheltered anchorage among the islets of the chain. A small islet and several below-water rocks lie about 1 mile WNW of Angissoq.

Igardlut (60°15'N., 45°38'W.), an above-water rock, lies 4 miles WNW of Angissoq. A 7.3m shoal patch lies about 0.5 mile N of the rock. Several below-water rocks lie within 0.5 mile SW of the rock.

Qeqertarssuatsiaq, an island 224m high, lies N of Sagdleq and 2 miles off the NW side of Sermersoq. Beacons mark the middle and N and S extremities of the island. Anchorage is afforded within a small bay, in depths of 7 to 11m, situated midway along the E side of the island.

Inuarugdligaq (60°21'N., 45°38'W.), an island 166m high, lies 5 miles WNW of Qeqertarssuatsiaq. This island can be readily identified by its summit which looks like the crest of a helmet. Arnargat, a group of islets, lies 1 mile E of the island. Ikardlugssuit, a group of rocks, is located on a submerged ridge which lies between the N end of Qeqertarssuatsiaq and Arnargat. Icebergs frequently ground on this ridge.

Anchorage can be obtained off the NW side of Inuarugdligaq.

Unartoq Fjord is entered 16 miles N of Kangeq and is separated from Sermilik Fjord by a mountainous peninsula. Its entrance lies between the SW extremity of this peninsula and Akuliaruseq, the S extremity of another peninsula, 7 miles WNW. The fjord extends NE for 14 miles and its inner part narrows to a width of less than 1 mile.

Tugtuturssuk and Unartoq are two islands which lie in the middle of the entrance to Unartoq Fjord. Tugtuturssuk, the outer and larger island, is cut almost in half by two small bays. Anchorage is afforded, sheltered from N winds, in the bay on the E side of the island. A small islet, marked by a beacon, and several below-water rocks lie within 1 mile of the S side of the island.

1.14 Alluitsup Fjord (Lichtenau Fjord) is entered between Akuliaruseq and Alluitsup Paa, 1.75 miles SW. It extends in a general NE direction for 12.5 miles and is then divided into two arms by a broad promontory on which stands Akuliaruserssuaq, a conspicuous mountain 1,464m high. Sioralik is the NE arm and Qagdumiut Ima the NW arm. Amitsuarssuk, an inlet, opens off the NW arm.

There are several drying rocks with a reef extending SW from them to the coast in the approach to Lichtenau.

Alluitsup Paa (Sydproven) (60°28'N., 45°34'W.), the largest settlement, is located on the low, indented and irregular tongue of land which forms the W entrance point of the fjord. Kingigtoq Mountain, 513m high with a cairn on its summit, stands 2.75 miles NW of Alluitsup Paa. Vessels up to 60m in length and 3.5m draft can anchor off this settlement, but the berth is frequently affected by swell.

There are a number of settlements in the fjord including **Ammassivik** (60°36'N., 45°24'W.), situated 3 miles within the W entrance point, which is the site of an old Moravian Mission. Ruins of a number of Norse farms are found around the shores of the fjord. Vessels up to 60m in length and 3.5m draft have anchored off the settlement, but the berth is open to swell. Although ice free and navigable during periods between the end of July to end of January, local knowledge is required.

Qallumiut (Qullimiut) (60°42'N., 45°22'W.) a small settlement should be approached during daylight hour only. Ships larger than 20m length should take anchorage in the bay off the harbor inlet in 15m depth.

Inner Route—Nanortalik to Alluitsup Paa.—The tendency for Julianehaab Bugt to act as a pocket for ice coming N from Nunap Isua is accentuated by the fact that winter ice does not usually form in the fjords between Nanortalik and Alluitsup Paa. Therefore, during spring and summer, there is no outflow of melted ice water from them to keep ice, coming from Nunap Isua.

During the period of ice, between January and July, these islands act as a barrier to the ice. Within them there are three routes by which navigation between Nanortalik and Alluitsup Paa may be practicable.

The first route leads N from Nanortalik through Ikerasarssuk Channel and then E and N of Sermersoq. This route can be used by vessels with drafts up to 4m; however, there is a least depth of 3m in Ikerasarssuk Channel at LW.

The second route leads close S of the S extremity of Nanortalik and then E of Sermersoq, joining the first route N of Thomsens O.

The third route leads S of Nanortalik, S and W of Sermersoq, and then E and N of Qeqertarssuatsiaq.

Parts of the second and third routes lead through narrow passages but there is deep water throughout.

Alluitsup Paa to Julianehaab.—Between Alluitsup Paa and the W extremity of Akia, a large island located 23 miles WNW, numerous islands, islets, and rocks extend for several miles offshore. In the SW approach to Alluitsup Paa there is a concentration of several islands with adjacent dangers. The mainland coast is indented by a number of inlets and fjords and vessels navigating inshore are advised to adhere to the inner routes available between Alluitsup Paa and Julianehaab.

Sector 1. Kap Farvel Archipelago to Nunarssuit in Davis Strait

1.15 Qaersup Kangia (Torssukatak), a small fjord situated W of Alluitsøqfjord (Lichtenau Fjord), is entered between a point, 4.75 miles NW of Alluitsup Paa, and the SE extremity of the Saarloq Peninsula, 5.5 miles W. The shores of this fjord are heavily indented and its inner part is scattered with islets.

Kinalita Mountain (60°34'N., 45°39'W.), 702m high, stands N of the E entrance point and is conspicuous. Qeqertarsuaq Island lies in the entrance to the above fjord and restricts the E and W channels. This fairly large island is surrounded by great depths.

A group of islets, with adjacent dangers, lies W and S of the Saarloq Peninsula and can best be seen on the chart.

Ikardluk (60°30'N., 46°05'W.), a rock awash, lies about 9 miles W of the W end of Qeqertarsuaq Island. Numerous islets and rocks extend NNW for 5 miles from this rock to the islands which lie off the mainland coast.

A below-water rock, the position of which is doubtful, lies about 4 miles SSW of Ikardluk.

A rock, with a depth of 4m, lies 4 miles WNW of Ikardluk. The E side of the approach to Julianehaab Fjord lies between this rock and the W extremity of Akia, 8 miles N. Numerous dangers exist in this area they are covered by the red and green sectors of Saarloq Light.

A 9.1m shoal patch lies 3 miles W of Ikardluk. The white sector of Saarloq Light leads between this danger and the rock mentioned above.

Caution.—Numerous sunken dangers have been reported (1970) to lie in the area between Ikardluk and Alluitsup Paa.

Talerua (60°33'N., 45°55'W.), an irregularly shaped island, lies off the SW side of the Saarloq Peninsula. Umanassuaq, a hill 365m high, stands on the NE end of the island. Umanarssup Tunua, a narrow channel, leads between the SW side of the peninsula and the NE side of the island. A bay, situated on the N side of the island, affords good anchorage for medium-sized vessels in a depth of 60m.

Saarloq (Sardloq) (60°32'N., 46°02'W.) is the N island of a group of islands and islets which lie close W of Talerua. Saarloq Light is shown from the NW islet.

Saarloq Havn, a settlement, situated at the W end of the S side of Saarlo. It is sheltered by the other islands of the group. There is a small jetty and several mooring buoys in the bay. Vessels up to 40m in length and 3.5m draft can anchor off the jetty and secure their sterns.

Kangeq, a large island situated close E of Akia, is separated on its N side from a mainland peninsula by Tuno, a channel 0.4 mile wide. Good anchorage, sheltered from the SE, can be obtained in the W bay on the N side of this channel.

Umanaq Island (60°35'N., 46°08'W.), 205m high, lies 4.5 miles SW of Kangeq. A ridge, on which stand several cairns, encircles the island. Anchorage can be obtained off the E side of the island in a depth of 18m.

1.16 Julianehaabs Fjord is entered between the low-lying W extremity of **Akia** (60°40'N., 46°13'W.) and the SE extremity of **Hollaendero**, a large island 4 miles W.

All of the larger islands on this part of the coast are separated by narrow, intricate channels. Several bays, which indent their shores, form good harbors and anchorages. Numerous smaller islands, islets, and rocks obstruct the area, but Julianehaabs Fjord, the main channel leading through these obstructions, is

clear. This fjord forms the recommended approach to the Port of Julianehaab.

From its entrance, Julianehaabs Fjord extends 11 miles ENE to Karrarmut Island where a broad arm opens N to form Qaqortoq Fjord. The main fjord then continues 4 miles farther ENE to Qeqertarsuaq, beyond which it leads into Igaliko Fjord.

There is a least charted depth of 27m in the fairway leading from Julianehaab Fjord and along the W and N sides of **Arpatsivik** (60°47'N., 45°55'W.) to the anchorage at the head of the fjord. The channel on the E side of Arpatsivik is encumbered with rocks and shoals and considered unsafe for navigation. A rock, awash, lies near the middle of the fjord about 1.25 miles N of the NE end of Arpatsivik.

Ivigssuortoq, an islet marked by a beacon, is located 4.5 miles SSW of the E entrance point. Several above and below-water rocks extend up to 1.5 miles N, S, and SW of this islet.

Qagssissalik, a small island, is located 2.5 miles S of the E entrance point. An islet, marked by a beacon, lies 1 mile E of this island. Numerous above and below-water rocks lie up to 0.75 mile E, S, and W of the island.

Paggivik Light (60°37'N., 46°11'W.) is shown from an islet located 0.5 mile N of Qagssissalik.

Islets, rocks, and shoal patches encumber the W side of the entrance to the fjord and extend up to 2.25 miles E and SE of the W entrance point.

A 14.6m shoal patch was reported to lie about 9 miles SW of Paggivik Light, but was reported (1979) not found by a vessel.

Pardlit, an island on the NW side of the fjord, is located 2 miles N of the E entrance point. Pardlit Light is shown from the SE extremity of the island. Kilagtoq is an island located 0.5 mile N of Pardlit. A light is shown from its NE extremity.

Hvide Naes Light is shown from a point on the N shore of the fjord, 3.5 miles ENE of Pardlit Light. A 9m shoal patch lies 2 miles WSW of Hvide Naes Light.

Iarut, a hill 205m high, stands 0.5 mile within the W entrance point of the fjord and is prominent from seaward.

Because of their elevations, the mountains far inland to the NE of the fjord entrance may be visible at considerable distances.

Approaching from SW, Redekammen Mountain (60°53'N., 45°45'W.), 1,210m high, observed over the W end of Akia Island leads into the entrance clear of all dangers. Alternatively, **Ilimaussiaq Mountain** (61°00'N., 45°56'W.), 1,390m high, in line with the highest point of Nordfjeld, 418m high, located 3 miles NNE of Pardlit Light, can be used.

Frequently, when these summits are obscured by cloud, Tugtutoq, a long island located 12 miles NW of the fjord entrance becomes easy to identify. In the approach to the fjord, the island, which rises to an elevation of 449m, has the appearance of a long, dark ridge sharply defined above the lower islands to seaward of it.

At night, the approach and entrance fairways are indicated by the various sectors of the above mentioned lights.

1.17 Qaqortoq (Julianehaab) (60°43'N., 46°02'W.) (World Port Index No. 00580), the administrative and principal settlement of S Greenland, is located on the N shore of the fjord, 8 miles within the entrance. An inlet, open S, forms an inner and outer harbor. A breakwater, 145m long, extends from

Sector 1. Kap Farvel Archipelago to Nunarssuit in Davis Strait

the W shore and protects the inner harbor. A range indicates the fairway.

Atlantic Quay, the main wharf in the inner harbor is 100m long, with a depth of 6.6m alongside. Vessels up to 110m in length and 6.5m draft have berthed at this quay.

The port is open, generally, throughout the year. However, entry is restricted from 1 January to 31 July to only ice-strengthened vessels.

Tides—Currents.—Tides rise an average of 2.8m at springs and 1.4m at neaps. The current flows NW, but in the S part of the port there is little effect.

Pilotage.—Vessels should send an ETA at least 24 hours in advance. Pilotage is not compulsory, but is recommended. An unlicensed pilot will board by arrangement off Akia. Port and Pilot can be contacted by:

telephone: Harbor Master +299 38244;

telex: Harbor Master 90202;

telegraph: Harbor Master Handelchefen Qaqortoq; and by:

VHF on channel 16, 12, or 13. Request for pilot is sent through Qaqortoq(OXF) or by VHF.

Winds—Weather.—Winds from E and NE are the most frequent, occurring as stiff breezes during the summer, but as storms during the winter months. Strong winds also blow from NW and WNW. Winds from S are less frequent, but raise a heavy sea and swell in the port. Winds from SW, W, and NW can set ice into the harbor.

Anchorage.—Vessels can anchor in the outer harbor; range lights mark the berth.

Qaqortoq Fjord, fronted by Karrarmiut Island, is entered between the E entrance point of Julianehaab outer harbor and an unnamed point, 4 miles ENE.

A large part of the S end of the fjord is occupied by Arpatsivik, an island 425m high, which lies off the E shore. The narrow channel between the E shore and the island is encumbered by rocks and shoals.

Upernaviarsuk (60°45'N., 45°54'W.) consists of a research station and a jetty 10m long, with a depth of 3.5m alongside. An anchorage with 10 to 70m depths off the station has poor holding ground. Spring tide rises to 2.8m.

Qaqortoq Fjeld, a mountain rising to 1,058m, stands 1 mile N of the entrance to **Tasiussaq** (60°50'N., 45°43'W.) the E of three small inlets which indent the N shore of the fjord. The ruins of Qaqortoq Church, the best preserved of all the old Norse buildings in Greenland, are situated on the shore of the fjord below this mountain.

Anchorage.—Vessels can obtain anchorage off a pebble beach, which fronts the church, in a depth of 37m, good holding ground. However, vessels should approach the anchorage on a course of 090° to avoid a rock awash which lies about 0.1 mile offshore W of the anchorage. There is also foul ground E and S of the anchorage.

Igalikup Kangerlua (Igaliko Fjord) (60°44'N., 45°45'W.) a continuation of Julianehaabs Fjord, is entered 7 miles E of Julianehaab harbor and is fronted by Qeqertarsuaq, an island 212m high. From this island, the fjord extends NE for 18 miles to a broad promontory where it divides into two arms. Settlements are located at the extremities of each of these arms. A least depth of 16.5m is reported to lie in the fairway.

Igaliku (Igaliko) (60°59'N., 45°26'W.) is the small settlement which is situated at the head of the NW arm. It stands on the site of Gardar where there are the relics of an old Norse cathedral and Bishop's residence. Two islets and a rock, with a depth of less than 2m, lie at the head of the arm about 0.5 mile NE of the settlement. The remains of several old Norse farms also lie in the vicinity.

Vessels may anchor off the settlement or berth at the quay, that can berth vessels in length up to 35m and draft of 3m.

Spring rise is up to 3.5m and neap to 1.4m. The tidal current at the berth runs E and SE at 1 knot, and less at the anchorage. With the Southeaster, the water level reduces to 1m below chart datum.

1.18 Pardlit Island, the farthest NE of a group of three main islands and several islets and rocks lying on the NW side of Julianehaabs Fjord. Agssakataup Nuna, and Sivingarnup Nuna, from NE to SW, are the other two main islands in the group.

Ikerassaq Qiterdleq is a navigable channel which leads along the SW side of Agssakataup Nuna. A beacon stands on an islet located on the S side of the W entrance to this channel.

Kilagtok, an island of irregular shape which lies close N of the group. A narrow channel leads between this island and the mainland E into Mato Lob and Skovfjord.

Mato, a small island, lies 0.5 mile N of the N extremity of Kilagtok in the entrance to Singitsut, a small cove. A beacon stands on its NW side.

1.19 Hollaendero, a large island, forms the W side of the entrance to Julianehaabs Fjord and the E side of the entrance to Skovfjord. Hollaendero Havn (MacMillan Harbor) is formed by an inlet and several small islands, which lie close offshore, at the SE end of Hollaendero. Vessels can anchor in the inlet in a depth of 30m, but the anchorage is open to the entry of ice.

The main advantage of the harbor is that it provides access to the hills on Hollaendero from where an excellent view of ice conditions at sea can be obtained.

Qeqertasugssuk, an indented small island, lies close off the middle of the E side of Hollaendero.

Qatitit, another small island, lies off the NE side of Hollaendero. It is marked by beacons standing on the SE and NW extremities.

Ikerasarssuk, a narrow channel, leads S of Qatitit and between the N side of Hollaendero and the S side of Kingigtoq. It is navigable and part of the inner route system. The channel has a least width of 0.12 mile and a least fairway depth of 13m, but is sometimes obstructed by pack ice.

1.20 Skovfjord, with its inner continuation called Tunugdliarfik, is situated W of Julianehaabs Fjord. The recommended entrance lies between the W end of Hollaendero and Simiutaq, 1 mile W.

From the entrance, the fjord extends NE for 19 miles to the SW end of a peninsula which projects from the mainland. Both sides of the fjord are bordered by islands and islets. Near this peninsula, the fjord divides into two arms. The NE arm continues and is known as Tunugdliarfik. Narssaq Sund, the NW arm, connects the fjord to Bredefjord.

Sector 1. Kap Farvel Archipelago to Nunarssuit in Davis Strait

Within the entrance, Skovfjord narrows in places to a width of under 1 mile, but the depths in the fairway are great.

The fjord may be approached by channels which lead E and W of Simiutaq. However, the W channel is encumbered with rocks and shoals and frequently blocked by ice.

Ilimaussa, 1,390m in height, stands on the mainland 27.5 miles NE of Simiutaq and is an excellent mark. In addition, the long island of Tugtutoq, 450m high, is located 12 miles NNE of Simiutaq and is easy to identify.

Range beacons stand on the W side of Hollaendero and, in line, lead into the fjord.

Angisit (60°38'N., 46°43'W.), a rounded islet 30m high, is located at the outer end of a chain of islands, islets, and rocks which extend 4.5 miles SW from Simiutaq. Two beacons stand on this island. A drying rock (position doubtful) lies about 3 miles E of Angisit on the W side of the approach to the fjord. Other dangers lie within 2 miles E, 6 miles WSW, and 8 miles W of Angisit and may best be seen on the chart.

Qioqe, 15m high, is the largest of a group of three islets located 2.5 miles S of the front range beacon on the W side of Hollaendero. This oval shaped island is black in color and easy to identify, even at night, with the sea breaking over it. There are several shoals in the vicinity of Qioqe and several rocks, some of which dry, lie between it and the S coast of Hollaendero. Shoal patches, with depths of 12m and 16m, lie about 1 and 2.25 miles, respectively, SW of Qioqe on the E side of the approach to the fjord.

Simiutaq, on the W side of the recommended entrance, is marked by three radio masts which stand close together near the center of the island. A mast, 61m high, stands on the SW part of the island. It is reported that a radiobeacon is located at this mast.

It is reported (1992) that a racon is located on a small islet lying off the SE side of Simiutaq.

Anchorage can be obtained close within the entrance to Skovfjord, in a narrow inlet on the SE side of Simiutaq, at the head of which stand the radio masts, previously mentioned.

Caution.—Any approach to the shore in the vicinity of the entrance must be made with caution because of the many small islets and rocks which may be scarcely visible. Vessels approaching the fjord from the W should keep well to seaward of the overfalls and breakers charted W and WSW of Angisit. These may indicate the presence of below-water rocks and other uncharted dangers.

The entrance to Skovfjord is the least conspicuous of any of the various fjord entrances situated along this coast.

A W set, up to 2 knots, may be encountered in the approaches.

Niaqornap (Niaqornak) (60°44'N., 46°35'W.) is the largest island in the chain which forms the NW side of Skovfjord. Its N shore is deeply indented. Several beacons, marking inner routes for small coastal craft, stand on the island. Hvide Humpel Lob, a narrow channel, leads between Niaqornap and Kerrortuskok, a small island SW, and forms part of the inner route system. An alternative inner route is through Nordlysets Lob, which leads between Kerrortuskok and Avatarmiut, close SW. It has the disadvantage that a single iceberg can block it and the tidal stream runs strongly through it.

Igdhlukasik (Ilukasuk) lies on the NW side of Skovfjord 2.5 miles NE of Niaqornap. Mathaeus Havn, an inlet at the NE end

of this island, affords the only anchorage within Skovfjord for large vessels. The berth has a depth of 40m, good holding ground, in shells, pebbles, and mud. However, it is not recommended during S and SE winds. In addition, ice has been known to fill the inlet. Depths in the inlet shoal gradually from deep water, at the entrance, to 13m, at about 0.1 mile from the head. Below-water and drying rocks lie close off both sides of this inlet.

Qangue, a small island, lies close NE of Igdhlukasik. There is a settlement on the island. A rock, which dries, lies in the channel between the two islands.

Kingigtoq, the largest island on the SE side of the fjord, lies close N of Hollaendero

Alangorssuaq, a narrow peninsula extending SW for 12 miles from the mainland, forms the SE side of Skovfjord NE of Kingigtoq. A beacon stands on its SW extremity.

Kangerdluarssuk, a fjord on the SE side of Alangorssuaq, can be entered from either Skovfjord or from Mato Lob, the inner channel leading from Julianehaabs Fjord (See paragraph 1.18). A high, dark islet with a cairn on its summit, fronts the mouth of a salmon river situated close within the W entrance point of Kangerdluarssuk. Anchorage can be obtained 0.2 mile NE of this islet, in a depth of 64m, good holding ground.

Eqalugaarsuit (60°37'N., 45°55'W.), a settlement, is situated on the mainland coast at the head of a narrow inlet. This inlet opens off a small bay on the S side of the entrance to Kangerdluarssuk, at its junction with Mato Lob. There is a small harbor with depths of 2.8 to 6.6m. Vessels up to 40m in length and 3m draft can berth with an anchor down and their sterns secured to the S shore. Larger vessels can anchor off the harbor in a depth of 50m.

Igdtafik (Igdtafik), on the S side of Narssaq Sund, is the innermost island of the chain which forms the NW side of Skovfjord. An 8.8m shoal patch lies about 0.75 mile N of the NE extremity of this island.

Narssaq Pynt, a projection, is located 2 miles ENE of the NE extremity of Igdtafik. It marks the junction of Skovfjord, Narssaq Sund, and Tunugdliarfik.

1.21 Narssaq (Narssaq) (60°55'N., 46°03'W.) (World Port Index No. 00585), a large settlement, stands on the mainland coast at the head of a cove 1.25 miles NW of Narssaq Pynt. A radiobeacon is reported to be situated close SE of the settlement.

West Harbor, located in the cove, can be used by small vessels which anchor and moor stern-to in depths up to 8m.

East Harbor is located in a bay close SE of the settlement. There are mooring buoys in the E part of the harbor. There is a quay for fishing vessels and a small oil jetty in the N part of the harbor. The main quay is 60m long with a depth of 8.3m alongside. Vessels up to 135m in length and 7.5m draft can be accommodated alongside. Vessels can also anchor in the middle of the harbor in depths of 20 to 35m. The recommended anchorage berth lies at the intersection of the alignments of two pairs of range lights.

A small islet, connected to the coast by a spit, is located on the E side of the entrance to the cove. A 3.4m shoal patch lies 0.1 mile NW of the islet, at the S end of a bank with depths of less than 10m, which occupies the central part of the entrance to the cove.

Sector 1. Kap Farvel Archipelago to Nunarssuit in Davis Strait

When anchoring in East Harbor, local knowledge is required due to the presence of outfall pipelines and poor holding ground.

It is reported that only ice-strengthened vessels may enter the port from January to early August.

Winds—Weather.—Winds from the SE occur most frequently, but they can be accompanied by very strong mountain squalls. Winds from the SW rarely occur, but do so without previous warning, sending a violent sea and swell into the harbor.

Tides—Currents.—Spring tides rise 3m and neap tides 1.6m. Winds from SW can raise the water level by as much as 0.3m. Winds from NE can lower the level by the same amount.

Pilotage.—Pilotage is not compulsory but is recommended. An unlicensed local pilot is available. Vessels should send an ETA at least 24 hours in advance. The harbor may be contacted by VHF on channel 16 and 13 or via Julianehaab radio.

Tunugdliarfik, a continuation of Skovfjord, is entered E of Narssaq Pynt. There is high land around it with elevations reaching 1,750m on Igdlarfissalik, 24 miles ENE of the entrance. The sides of the mountains fall steeply down with a continuous steep gradient underwater, so that, with few exceptions, it is possible to approach quite close to the shores of the fjord and still find deep water.

Tunugdliarfik Fjord extends for 21 miles and then branches into two arms. The NE arm, known as Qoroq, extends to a glacier at its head. The other arm, known as Narssarsuaq Reach, trends N for 10 miles to Qinqa, a bay lying at its head.

Anchorage.—Anchorage, suitable for an extended time, can be obtained at the head of Narssarsuaq Reach in depths of 18 to 29m. Tidal streams are reported to attain a rate of 1 to 1.5 knots in the reach.

Narsarsuaq (Narssarsuaq) (61°09'N., 45°26'W.) (World Port Index No. 00590), a settlement, is situated on the E side of the reach 4 miles within the entrance. A meteorological observation station and airfield are located here.

A pier, 140m long, extends from the shore. There are depths of 6 to 11m alongside its W side and 5 to 8m alongside its E side. Vessels up to 130m in length and 8m draft have been accommodated.

Winds—Weather.—Winds from the SE can reach very strong gale strength. In addition, mountain squalls can blow out of Qoroq. There is heavy mooring equipment on the quay and it should be used by larger vessels during SE winds.

Ice.—An ice patrol and reporting service covering West Greenland is operated from **Iscentralen Narsarsuaq** (61°0'N., 45°25'W.). See Pub. 180 - Planning Guide for the Arctic Ocean.

Tides—Currents.—Tides rise 3.0m at springs and 1.6m at neaps. Strong winds from the SE may lower the water level by up to 1m.

Pilotage.—There are no pilots, but persons with local knowledge are available. An ETA should be sent at least 24 hours in advance. The port may be contacted by VHF.

The port is ice bound during the winter and is open to entry only during the season from about mid-May to mid-October.

Caution.—Areas outside the fairway are not sufficiently well charted for vessels to proceed into them without local knowledge.

A strong NE current can occur off the pier. The pier is not solid and caution is advised during berthing.

Qassiarsuk (Qagssiarssuk) (61°09'N., 45°31'W.) a small settlement, is situated on the W side of Narssarsuaq Reach opposite Narssarsuaq. It is reported to be the site of Eric the Red's farmstead. There is a jetty for small craft. Vessels can anchor off the settlement in a depth of 16m.

1.22 Ikersauq (Bredefjord) (60°46'N., 46°47'W.) is the longest and deepest of the fjords which open off Julianehaab Bugt. It trends NE for 27 miles to the junction with Narssaq Sund. Nordre Sermilik, the inner NW continuation of the fjord, has two arms which both terminate in large glaciers.

Bredefjord is entered between **Qarmat** (Karmat) (60°44'N., 46°55'W.) and Upernivik, another island 2 miles NW. It can be safely navigated in mid-channel and has a least width of 1.5 miles. The SE side of the fjord is formed by a chain of islands which separate it from Skovfjord; the largest of these islands is Tugtutoq (See paragraph 1.20).

From the approach to Bredefjord, several mountains along with the lower but still prominent island of Tugtutoq, located in front of them, can all be seen at considerable distances in good visibility. Closer in, Upernivik Island, brown in color, appears to stand out well against the background. A number of beacons and a cairn stand on Qarmat Island.

Avatlek (Ydero) (60°41'N., 47°04'W.), a small islet lying 5 miles SW of Qarmat, is located at the seaward end of a chain of islands, islets, and rocks on the SE side of the approach to the fjord. Several dangers lie within about 1 mile of this islet and may best be seen on the chart.

Caution.—Areas lying SW, S, and SE of Avatlek have not been completely surveyed. Vessels should use extreme caution in this vicinity.

Inugsutut, another islet in the chain, lies 1.5 miles WSW of Qarmat. A light is shown from a tower, 5m in height, standing on this islet. The white sectors of this light, bearing ahead and astern, lead into the entrance and up the fjord.

It is reported (1993) that a racon is situated at the light structure.

Avatdleg (60°43'N., 47°15'W.), a rocky islet 9m high, is located at the seaward end of a chain of islands and islets on the NW side of the approach to the fjord, 7 miles WSW of Upernivik. Shoal patches, with depths of less than 5m, lie within 1 mile of this islet and may best be seen on the chart.

Takissiq, an island in the chain, lies 2.25 miles NE of Avatdleg and is marked by a beacon. Shoal patches, with depths of less than 12m, lie within 1 mile SE of the island on the NW side of the approach fairway and may best be seen on the chart.

When approaching from E, vessels should keep well to seaward to avoid the many dangers which lie along the coast between Skovfjord and Bredefjord.

Ice.—Although Bredefjord usually contains glacier ice, it is generally navigable. Icebergs, which calve from the glaciers in the N part of Nordre Sermilik, may inconvenience navigation after the winter ice has broken up.

Sector 1. Kap Farvel Archipelago to Nunarssuit in Davis Strait

1.23 Apoqataq, located close E of Upernivik, is a small island on the NW side of Bredefjord. When ice blocks the main entrance, the fjord can be entered by passing close W and N of Upernivik and N of Apoqataq. There is a least depth of 12.8m in the passage between Apoqataq and the S part of Qaarsuarsuk (Kanertek), lying close N.

Anchorage.—A small cove, Hoyers Havn, indents the N side of Qarmat. Other than during E or NE winds, vessels are able to anchor in this cove with their sterns secured to the shore, bows NE. Vessels can also anchor in Apoqataq Havn, an open bay indenting the S side of Apoqataq Island, in depths of 31 to 33m, good holding ground.

Unertoq (Unektok), 45m high, is an islet located on the SE side of the fjord 0.25 mile E of the E extremity of Qarmat. Its summit is marked by a cairn and a beacon stands on its N end.

Lille Tugtutoq (60°45'N., 46°48'W.), an island located N of Unertoq, extends NE for 5 miles on the SE side of Bredefjord. Numerous islets lie close off all its sides except that which faces the fjord. The SW part of the island rises to a summit, 150m high, and several cairns stand along its SW shore.

Putdlatit, a small island, lies close off the S side of Lille Tugtutoq, 2.5 miles E of Unertoq. Constance Havn is located in a bay which indents the S side of this island. Vessels can anchor here in a depth of 15m. When approaching from the W, a useful landmark is the ruins of an old house which stand on a flat headland close W of the harbor. When approaching from the E, two round hills, standing on a headland close E of the harbor, are useful marks. Within the harbor, there are depths of 5.3 to 16.5m. It is spacious and affords protection from drifting ice.

Anchorage can also be obtained within a small bay, located close NE of the E entrance point of Constance Havn, in a depth of 20m.

Qaarsuarsuk (Kanertek), a large irregular island, lies on the NW side of Bredefjord with its S extremity located close N of Apoqataq. Kangerdluarssuk, the larger of two inlets, which indent the SW side of the island, extends in a NE direction for 6 miles and to within 2.5 miles of the NE shore. On its NE side, Qaarsuarsuk is separated from the mainland by a channel known as Torsukatak, the entrances of which are encumbered with islets. A prominent mountain, 507m high, stands on the NW side of this channel; its summit is marked by a cairn.

Tugtotoq lies close NE of Lille Tugtotoq and extends in a NE direction for 17 miles. This conspicuous island is bisected, near its middle, by deep inlets.

1.24 Bredefjord to Qaqaligatsiaq Fjord (Kakaligatsiak Fjord).—The group of islands and islets located between the entrances of these fjords are referred to as the Qassimiut Islands.

Qassimiut (Qagssimiut) (60°47'N., 47°10'W.), the E most island of the group, is located 6 miles NW of Inussuttuut Light and surrounded by numerous islets and rocks.

Qassimiut harbor situated in a small inlet with the settlement on its W and N sides. Smaller craft can berth alongside the jetty where depths are from 1.3 to 3m. Largest size craft berthed at the jetty was 30m long with a draft of 3m on HW. Vessels can anchor in 20m depth at about 100m SE of the jetty; however, larger vessels should also use the stern moorings to the ringbolts, one on each side of the inlet. Tankers anchor at

about 100m from the leading beacon and use stern moorings off the tank farm. The holding ground in both places is good, but with the SE or N winds, vessels should leave the anchorage in good time before the heavy swell sets in.

Tides—Currents.—Tidal current runs strong in the sound W of the settlement but weakens inside the inlet. Spring tide rises to 2.4m; neap to 1.7m, and Maximum tide rise can reach to 3.5m

The inner route for small coastal craft leads across the mouth of Ikersauq (Bredefjord), S of the islets and rocks lying off the SE end of Qagssimiut, and W into Nordlige Maagelob or Sydlige Maagelob, two navigable channels which lead through the islands into Qaqaligatsiaq Fjord. Nordlige Maagelob, the N channel, is the preferred one having a least depth of 9.1m in the fairway. Sydlige Maagelob, the S channel, is often affected by ice conditions at its E end. Both channels are marked by beacons and local knowledge is required.

Avatdlianguak (Avatdliunguak) (60°43'N., 47°22'W.) with a below-water rock lying 1 mile WSW, is the outermost islet of the group.

Numerous shoal patches and rocks front the seaward side of the group and may best be seen on the chart.

Off-lying Danger.—Kekertat Oerne (Qeqertat Oerne) (60°35'N., 47°34'W.), a group of low islets and rocks, lies about 10 miles SW of Avatdlianguak.

1.25 Qaqaligatsiaq Fjord (Kakaligatsiak Fjord) is an open bay lying between the Qassimiut Islands, to the E, and the large island of Nunarssuit with its fringing islets, to the W. It can be entered between the island of Unamaq (Unamai) (60°43'N., 47°40'W.) and the islets of the Satut Group, 1.5 miles E, or between Unamaq and the coast of Nunarssuit, 0.5 mile NW.

The approaches are encumbered in places by islets, rocks, and shoal patches; local knowledge is necessary.

The inner continuation of the fjord, known as Sermilik (Sermitsialik), extends for 14 miles to a glacier. The SE side of Sermilik is formed by a chain of islands, but little is known about them or the passages leading between them.

Ice.—The islands, which form the E side of the fjord, are the first of those along the route from Julianehaab to Nunarssuit to become ice bound in winter. Icebergs can also block the E entrance to Nordlige Magelob, but this channel, unlike Sydlige Maagelob, is seldom obstructed.

1.26 Nunarssuit, the largest island in this vicinity, is located with Alangorssuak to the NW, close off the mainland coast between the entrances to Qaqaligatsiaq Fjord (Kakaligatsiak Fjord) and Kobberrminebugt. Both of these large islands are fronted, on their W sides, by groups of small islands and islets. (See Sector 2).

The S side of Nunarssuit is steep and rugged, but by contrast, its N side is quite low with flat plains. Maleneffeld, a steep mountain 494m high, stands close to the E end of Nunarssuit and is conspicuous from seaward.

Torssukatak and Ikerasagssuaq, two narrow channels, form a passage, 22 miles long, leading N of Nunarssuit. They are used by small coastal craft navigating the inner route system between Julianehaab and Ivigtut. Local knowledge is required. The channels, marked by beacons, join in a narrows, about

Sector 1. Kap Farvel Archipelago to Nunarssuit in Davis Strait

45m wide, at Knaekket, a flat point located on the SE end of Alangorssuak.

Torsukatak, lying between Nunarsuit and Alangorssuak, is characterized by steep shores and subject to almost constant fogs.

Ikerasagssuak, lying between Nunarsuit and the mainland, has lower and more sloping shores and is less foggy. That part of the narrows lying at the W end of Ikerasagssuak is the most difficult part of the passage to navigate because of a very swift tidal current which attains a rate of 4 knots. The flood stream sets W and the ebb stream sets E through both channels.

There is a least depth of 7.5m in the center of the fairway of the combined sounds; this depth occurs in the narrows at the E end of Torsukatak. A hill, 185m high with two conspicuous small summits, stands at the W entrance to Torsukatak on the NW extremity of Nunarsuit.

Ice.—Torsukatak is frequently filled with pack ice from seaward. However, the outflow of water from Sermilik through Qagaligatsiaq Fjord (Kakaligatsiak) keeps the drifting pack from penetrating into Ikerasagssuak. Locally formed winter ice is more prevalent E of the narrows than to the W. Generally, the channels are not completely open throughout their length until the first half of June. Vessels capable of forcing the ice can use them from early May.

Anchorage.—Anchorage may be obtained in a bay at Bangs Havn, 2.5 miles E of Knaekket, in a depth of 15m, clay.

Anchorage may also be obtained in a cove at Aurora Havn, 9.5 miles ESE of Knaekket, in depths of 13 to 15m. Vessels may use a single anchor or secure their sterns to the N shore.

1.27 Kap Thorvaldsen (60°40'N., 47°54'W.), the S extremity of Nunarsuit and the NW entrance point of Julianehaab Bugt, is situated 7.5 miles SW of Umanaq (Umanai). The shore between is fronted by islets, rocks, and shoal patches. The cape, rising to an elevation of 377m, is conspicuous from seaward.

Islets and above-water rocks extend 1.25 miles S of the cape and a 1m shoal patch lies about 3.5 miles ESE of it.

Caution.—An area lying S of Kap Thorvaldsen has not been completely surveyed. Vessels should use extreme caution in this vicinity.

A depth of 23.8m was reported (1992) to lie about 11.5 miles S of the cape.

Tasiusaq and Amitsuarssuk, two short fjords, are entered 6 and 8 miles, respectively, WNW of Kap Thorvaldsen. Both of their entrances are fronted by off-lying islands. These fjords are reported to be clear of dangers and provide shelter for vessels shut in by ice under the SW side of Nunarsuit. Good anchorage is available in the innermost part of Amitsuarssuk, E of a small island on the N side, in a depth of 26m; also, in the N part of a cove located on the S side close within the entrance, in a depth of 33m.